

**Arsenic Rule Benefits Review Panel
of the US Environmental Protection Agency
Science Advisory Board**

Panel Membership

July 2, 2001

Dr. Maureen L. Cropper, (Chair) received her Ph.D. in Economics from Cornell University, and now serves as the Principal Economist in the Policy Research Department of The World Bank and Professor of Economics at the University of Maryland. Dr. Cropper's research areas include the economics health, environmental, natural resource and urban issues. Specific projects have addressed topics such as valuing the health benefits of environmental programs and the study of the political economy of environmental regulation. Dr. Cropper has served as the Chair of the EPA SAB Advisory Council on Clean Air Compliance Analysis and as a member of SAB Environmental Economics Advisory Committee.

Dr. Richard J. Bull, received his Ph.D. in Pharmacology from the University of California, San Francisco. He is an adjunct Professor of Pharmacology and Toxicology at the Washington State University Department of Pharmacology and Toxicology and the principal of MoBull Consulting, Inc. His research interest is in incorporating mechanistic data into models used for estimating human health risk. Specifically, his research focuses on mechanisms that produce the carcinogenic effects of by-products of drinking water disinfection and halogenated solvents. Dr. Bull served in a number of research positions as a Public Health Service Officer at the US EPA Health Effects Research Laboratory, retiring in 1984 as the Director of the Toxicology and Microbiology Division of the laboratory. He also served as Senior Staff Scientist at the Batelle Pacific Northwest Laboratory from 1994 - 2000. Dr. Bull served as the Chair of the EPA SAB Drinking Water Committee from 1996 through 2000 and currently is a member of the SAB Research Strategies Advisory Committee. Dr. Bull Chaired the National Research Council (NRC) Committee on Copper in Drinking Water and the NRC Subcommittee on Water Quality in Space Station Freedom. He also served on the NRC Subcommittee on Drinking Water Disinfectants, the NRC Committee on Recycling, Reuse, and Conservation of Water, the NRC Committee on National Water Quality Assessment Program, and the NRC Committee on the Viability of Augmenting Potable Water Supplies with Reclaimed Water.

Dr. A. Myrick Freeman, III, received his Ph.D. in Economics from the University of Washington. He is now the William D. Shipman Research Professor of Economics, Bowdoin College Economics Department. Dr. Freeman's principal research interests are in the areas of the economics of environmental policy, applied welfare economics, benefit-cost analysis, and risk management as applied to environmental and resource management issues. Much of that work focused on the development of models and techniques for estimating the welfare effects of environmental changes such as the benefits of controlling pollution and the damage to natural resources from releases of chemicals into the environment. He has authored or co-authored eight books including *The Economics of Environmental Policy* (with Robert Haveman and Allen Kneese), *The Benefits of Environmental*

Improvement: Theory and Practice; Air and Water Pollution Control: A Benefit-Cost Assessment; and The Measurement of Environmental and Resource Values: Theory and Methods. Dr. Freeman has served on the EPA SAB Environmental Economics Advisory Committee, the SAB Advisory Council on Clean Air Compliance Analysis, and the SAB Clean Air Scientific Advisory Committee. Dr. Freeman also served on the National Academy of Sciences' (NAS) Panel on Effects of Ambient Environmental Quality, the NAS Committee on Assessment of PCBs in the Environment, and the NAS Workshop on Land, Sea, and Air Options for the Disposal of Industrial and Domestic Wastes.

Dr. W. Michael Hanemann, received his Ph.D. in Economics from Harvard University. He is the Chancellor's Professor in the Department of Agricultural and Resource Economics and the Goldman School of Public Policy at the University of California, Berkeley. Dr. Hanemann's research focuses on water resource economics primarily in the area of water supply economics and wastewater disposal. His recent work has considered the economics of water supply and urban water demand. Dr. Hanemann has conducted research on various aspects of Contingent Valuation. Dr. Hanemann is a member of the EPA SAB Environmental Economics Advisory Committee and has served on the National Research Council's Committee to Review the Glen Canyon Environmental Studies Program and the NRC Committee on Wolf and Bear Control in Alaska. He has also served on a number of expert panels on water resource issues for entities at the local water district and the state level.

Dr. Dale B. Hattis, received his Ph.D. in Genetics from Stanford University. He is a Research Professor in the Clark University Center for Technology, Environment, and Development and has over twenty years experience in the development and application of methodologies to assess the health, ecological, and economic impacts of regulatory actions. His research interests include the development of methods to incorporate interindividual variability data into risk assessments for both cancer and non-cancer endpoints; quantitative risk assessments for reproductive effects of ethoxyethanol, neurological effects of acrylamide, chronic lung function impairment from coal dust; and the analysis of uncertainties in pharmacokinetic modeling for perchloroethylene. He has experience in the use of Monte Carlo simulation analysis of uncertainties in carcinogenic risks for air and drinking water pollutants. Dr. Hattis was a member of National Academy of Sciences/Institute of Medicine Committee on Evaluation of the Safety of Fishery Products, the NRC Committee on Neurotoxicity and Risk Assessment, and is a member of the NRC Committee on Estimating the Health Risk Reduction Benefits of Proposed Air Pollution Regulations. He is also a member of the Massachusetts Department of Environmental Protection/Department of Public Health Advisory Committee on Health Effects.

Dr. Irva Hertz-Picciotto, received her Ph.D. in Epidemiology from the University of California, Berkeley. She is a Professor of Epidemiology at the University of North Carolina School of Public Health. Her research interests include epidemiologic methods, environmental exposures, and reproductive health outcomes. Specifically, Dr. Hertz-Picciotto has worked on issues such as survival analysis in studies of adverse pregnancy outcomes, the healthy worker survivor effect, assessment of interactions between two or more exposures, the integration of epidemiologic data in the quantitative assessment of risk from environmental hazards, and issues related to timing of exposure during

pregnancy. She has also conducted arsenic specific research. Dr. Hertz-Picciotto was Chair of the National Academy of Sciences/Institute of Medicine Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides. She has served on a number of advisory committees at the state and national level including panels for the National Cancer Institute and the National Institutes of Environmental Health Sciences.

Dr. V. Kerry Smith, received his Ph.D. in Economics from Rutgers University. He is the University Distinguished Professor in the Department of Agricultural and Resource Economics at the North Carolina State University. Dr. Smith's research interests include: non-market valuation of environmental resources, the role of public information in promoting private risk mitigation, environmental policy and induced technical change, non-point source pollution and nutrient policy. Dr. Smith has conducted research on the use of Monte Carlo analysis methods in econometrics and many other aspects of valuing the benefits of environmental regulation. He has served on the EPA SAB Environmental Economics and Policy Committee and is now a member of the SAB Advisory Council on Clean Air Compliance Analysis. He also serves on EPA's Children's Health Protection Advisory Committee> Dr. Smith was Chair of the National Academy of Sciences Committee on Sanitary and Phytosanitary Standards and International Trade.